REMARKS

Claims 1-18, 20-27 and 29-42 are pending in the present application. Claims 17, 18, 20-27 and 29-33 are rejected. Claims 17, 21 and 23 are herein amended. Claims 18 and 32 are herein cancelled without prejudice.

Applicants' Response to Claim Objections

The Office Action objects to claim 32, because it does not further limit the subject matter of the independent claim on which it depends. It appears that subject matter of claim 32 was incorporated into claim 21 in the Amendment filed on July 5, 2006. Therefore, Applicants herein cancel claim 32.

Applicants' Response to Claim Rejections under 35 U.S.C. §112

Claims 21-27 and 28-33 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the application regards as the invention.

With regard to claim 21, the Office Action states that there is insufficient antecedent basis for the term "the area." Therefore, in response, Applicants herein amend the claim in order to provide for correct antecedent basis.

Applicants' Response to Claim Rejections under 35 U.S.C. §102

Claims 17, 18, 21, 24, 26, 27, 29, 30 and 32 were rejected under 35 U.S.C. §102(b) as being anticipated by Corn et al. (U.S. Patent No. 6,127,129).

It is the position of the Office Action that Corn discloses the invention as claimed. Corn is directed at a process to create biomolecule and/or cellular arrays on metal surfaces. Corn discloses a fabrication scheme for a biochip, where a PEG background surrounds a plurality of DNA attachment sites. As illustrated in Figure 4, a gold (Au) substrate is attached to a DNA via 11-mercaptoundecylamine (MUAM) and sulfosuccinimidyl 4-(N-maleimidomethyl)cyclohexane-1-carboxylate (SSMCC). The Office Action interprets X to be the mercapto group of MUAM, interprets Y to be the amine group of MUAM, and interprets R to be the CH_2 of MUAM, which is repeated eleven times. Furthermore, it is noted that the linking polymer of Corn is hydrophobic. Please see Figure A, attached for explanatory purposes.

On the other hand, the present invention utilizes a linking polymer which is hydrophilic. Please see Figure C, attached for explanatory purposes. While pending claim 17 does not specify a hydrophilic polymer, claim 18 specifically recites this. Therefore, Applicants herein incorporate the subject matter of claim 18 into claim 17. Accordingly, this amendment does not raise new issues requiring further search or consideration. Additionally, it is noted that claim 21 already recites a hydrophilic linker polymer. Therefore, Applicants respectfully submit that Corn does not disclose or suggest the invention as claimed, since Corn discloses only a hydrophobic linking polymer. Favorable reconsideration is respectfully requested.

Claim 22 was rejected under 35 U.S.C. §102(b) as being anticipated by Corn et al. as evidenced by Jolly et al. (Modern Inorganic Chemistry, 1984, McGraw Hill, inside cover).

It is the position of the Office Action that Corn discloses the invention as claimed, with the exception of a heterobifunctional hydrophilic polymer molecule having a molecular weight of 200 to 2000. The Office Action relies on Jolly to provide this teaching. In response, Applicants respectfully submit that claim 22 is patentable due to its dependency on claim 21, which Applicants submit is patentable for at least the reasons discussed above.

Applicants' Response to Claim Rejections under 35 U.S.C. §103

Claims 20 and 33 were rejected under 35 U.S.C. §103(a) as being unpatentable over Corn in view of Noblett (U.S. Patent No. 6,362, 004).

It is the position of the Office Action that Corn discloses the invention as claimed, with the exception of the measurement being performed using an array which includes a marker indicative of a spot. The Office Action relies on Noblett to provide this teaching. In response, Applicants respectfully submit that claims 20 and 33 are patentable due to their dependency on claims 17 and 21, respectively.

Claim 23 was rejected under 35 U.S.C. §103(a) as being unpatentable over Corn in view of Bambad et al. (U.S. Patent No. 5,620,850).

It is the position of the Office Action that Corn discloses the invention as claimed, with the exception of the R of the heterobifunctional hydrophilic biopolymer having a structure

expressed by a repeating unit of $-(-O-R_1-)_n-$, wherein R_1 is an alkylene group, and n is an integer number in the range of 4 to 450. The Office Action relies on Bambad to provide this teaching.

The Office Action points to Bambad to teach a repeating unit R comprising $-(CH_2)_n-O(CH_2CH_2-O)_m$ where n=4-20, preferably 8-14 and m=1-10, preferably 2-5. Unlike Corn, which discloses a hydrophobic polymer, Bambad discloses a hydrophilic polymer. Therefore, the cited references are conflicting. According to MPEP §2143.01 "[w]here the teachings of two or more prior art references conflict, the examiner must weigh the power of each reference to suggest solutions to one of ordinary skill in the art, considering the degree to which one reference might accurately discredit another. *In re Young*, 927 F.2d 588, 18 USPQ2d 1089 (Fed. Cir. 1991)."

Accordingly, Applicants first respectfully submit that claim 23 is patentable due to its dependency on claim 21, which Applicants submit is patentable for at least the reasons discussed above. Additionally, Applicants respectfully submit that the combination of references does not disclose the invention as claimed. However, Applicants herein amend claim 23 in order to provide better clarity of the structure which is repeated in the polymer. This amendment does not raise new issues requiring further search or consideration. Favorable reconsideration is respectfully requested.

Claim 25 was rejected under 35 U.S.C. §103(a) as being unpatentable over Corn in view of Bambad, as evidenced by Wade et al. (Organic Chemistry, 2nd edition, Prentice Hall, New Jersey, page 966 (1991)).

It is the position of the Office Action that Corn discloses the invention as claimed, with the exception of teaching a second hydrophilic compound of a formula of X-R-Y. The Office Action relies on Bambad to provide this teaching. The Office Action relies on Wade to teach that acid chlorides commonly react with amines.

With respect to this rejection, the Office Action alternatively interprets X' to be the mercapto group of MUAM, interprets Y' to be the amine group of MUAM, and interprets R' to be the CH_2 of MUAM, which is repeated eleven times. The Office Action also interprets X to be an acid chloride, interprets Y to be chelating agent Ch, and interprets R to be $(CH_2)_n$. The Office Action indicates that "Wade teaches that acid chlorides commonly react with amines." Thus, the Office Action appears to argue that the combination of references teaches a metal substrate with linker MUAM attached and a linker comprising an acid chloride, a repeating unit $(CH_2)_n$ and a chelating agent Ch bound to MUAM and the biomolecule.

However, as discussed above, the references provide conflicting teachings. Corn is directed at a hydrophobic linking molecule, while Bambad is it directed at a hydrophilic linking molecule. Thus, Applicants first respectfully submit that claim 25 is patentable due to its dependency on claim 21, which Applicants submit is patentable for at least the reasons discussed above. Additionally, Applicants respectfully submit that there is no suggestion or motivation in

the art to combine these two conflicting teachings. Favorable reconsideration is respectfully requested.

Claim 31 was rejected under 35 U.S.C. §103(a) as being unpatentable over Corn in view of Wiegel et al. (U.S. Patent No. 6,107,034).

It is the position of the Office Action that Corn discloses the invention as claimed, with the exception of teaching that the protein is a transfer protein. The Office Action relies on Wiegel to provide this teaching. In response, Applicants respectfully submit that claim 31 is patentable due to its indirect dependency on claim 21, which Applicants submit is patentable for at least the reasons discussed above.

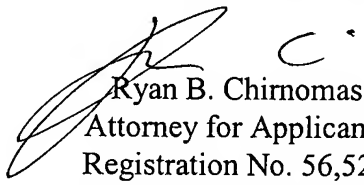
For at least the foregoing reasons, the claimed invention distinguishes over the cited art and defines patentable subject matter. Favorable reconsideration is earnestly solicited.

Should the Examiner deem that any further action by applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicants' undersigned agent.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP



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Enclosures: Explanatory Figures A, B and C